Geothermal energy researchers are hoping to tap Idaho's natural heat to help meet the need for increased baseload energy without the burning of additional fossil fuels.

CAES forms geothermal energy research team

By Kortny Rolston, *INL Communications & Governmental Affairs*

The Center for Advanced Energy Studies is getting into hot water — the energy-producing kind.

Workshop participants take a closer look at the Soda Springs geyser, which is not hot and can be safely touched.

CAES has formed a geothermal energy research team to explore turning the hot water flowing beneath Idaho into an economical source of power. The team, composed of researchers from Boise State University, Idaho National Laboratory, Idaho State University and University of Idaho, is focusing on enhanced geothermal energy systems — a technology in which fluid is injected into hot dry rock that has been fractured in order to extract heat and harness it to generate power.

"We think geothermal energy is an area of untapped potential for the state, and frankly, the region," said Dr. Harold Blackman, former CAES director." Idaho doesn't have the coal or natural gas reserves that surrounding states do, so we need to use what we have and that is geothermal."

Idaho is consistently ranked as one of the top states for its geothermal energy potential.

In 2006, a Western Governors' Association task force estimated that Idaho has 855 megawatts of near-term economic potential resources and 1,670 megawatts of long-term potential. (One megawatt can power 1,000 homes.)

Did You Know?

Idaho has long used geothermal energy to heat buildings and commercial greenhouses and raise warm-water fish. In fact, the world's first geothermal district heating system was developed in Boise in 1892. The city still uses geothermal energy to heat 55 buildings in its downtown area.

While Idahoans have long used geothermal energy to heat buildings and greenhouses and to raise warm-water fish, the state only has one commercial power plant fueled by hot water. (U.S. Geothermal acquired the Raft River plant in 2002 and now sells electricity to Idaho Power.)

The CAES research team is hoping to change that.

They believe the time is ripe for geothermal, especially with the development of new technology and the push for reliable sources of renewable energy.

"Geothermal energy production allows us to tap the earth's natural heat to help meet our needs for increased baseload energy without the burning of additional fossil fuels," said Bob Smith, a CAES associate director and researcher from University of Idaho.

CAES recently hosted a geothermal energy workshop that drew more than 70 people from industry, academia, government agencies and conservation groups.

The goals were to identify geothermal expertise at the CAES partner institutions, understand industry needs, identify research funding opportunities and discuss the possibility of a shared geothermal curriculum among the university partners.

"We needed all the stakeholders at the table so we could refine our research focus and figure out the best ways to pool our resources," said Robert Podgorney, an INL and CAES researcher who helped organize the event.

For Richard Austin, the timing of the workshop and the formation of the CAES geothermal research team couldn't be better.

Austin, who is overseeing an exploratory drilling in Idaho for AMG, a company based in Colorado, is looking for students to recruit into the geothermal field — especially now that there is renewed interest in using hot water and steam to produce power.

"Geothermal is an industry that is blossoming and we are going to need workers who are trained in

different aspects of the field," he said. "It's exciting that the Idaho universities are talking about developing a geothermal curriculum."

Austin also believes that geothermal will become a key energy source for Idaho, the region and possibly the country.

"Idaho and the Northwest have long relied on hydropower, but that resource is maxed out," Austin said. "We are using all the hydropower we have. We've got to develop new sources of clean, reliable energy and geothermal has great potential. "

CAES recently hosted a workshop where participants worked to refine the geothermal energy research focus and approach.

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